

CLAIMS

1. (Amended) An exhaust gas purifying catalyst carrying an alkali metal and a noble metal on a crystalline zirconium composite oxide, wherein the zirconium composite oxide is the one in which zirconium is partly substituted with at least one kind of element selected from trivalent rare earth metals, and the elongation of the crystal lattice due to the substitution with the element assumes a nearly theoretical value.

5 2. (Amended) An exhaust gas purifying catalyst according to claim 1, wherein at least one kind of element selected from the trivalent rare earth metals is present in an amount of 5 to 50 mole % based on the whole mole number of all the metal elements in the zirconium composite oxide.

10 3. An exhaust gas purifying catalyst according to claim 1, wherein zirconium is partly substituted with lanthanum.

4. An exhaust gas purifying catalyst according to claim 1, wherein the alkali metal carried by the zirconium composite oxide is cesium.

20 5. An exhaust gas purifying catalyst according to claim 1, wherein the noble metal carried by the zirconium composite oxide is platinum.

6. (Added) A method of producing an exhaust gas purifying catalyst carrying an alkali metal and a noble metal on a crystalline zirconium composite oxide, wherein an organic phase in which is dissolved an organic compound that forms a hydroxide of zirconium upon the hydrolysis is brought into contact with an aqueous phase which contains, as ions, a second element selected from trivalent rare earth metals in order to take the second element into a product in a step of forming a hydroxide of zirconium by the hydrolysis of a zirconium organocompound on the interface thereof, the obtained composite hydroxide is fired to obtain a composite oxide of zirconium and the second element, and an alkali metal

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and a noble metal are carried thereon.

7. (Added) A method of producing an exhaust gas purifying catalyst according to claim 6, wherein the organocompound that forms the hydroxide of zirconium upon the hydrolysis is one selected from zirconium alkoxide and an acetylacetone zirconium complex.

8. (Added) A method of producing an exhaust gas purifying catalyst according to claim 6, wherein the organocompound that forms the hydroxide of zirconium upon hydrolysis is zirconium butoxide.

9. (Added) A method of producing an exhaust gas purifying catalyst according to claim 6, wherein the second element is lanthanum.